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PATENT**Remarks**

Entry of the foregoing amendments and reconsideration of this application is requested. By this amendment, claims 1, 17, 24, and 25 have been amended to more specifically set forth the invention. Claim 37 has been added. Claims 1-37 now remain in the application.

**Claim Rejections - 35 U.S.C. § 102(e)**

The Examiner has rejected claims 1-36 under 35 U.S.C. §102(e) as being anticipated by Resnick et al., U.S. Patent No. 6,517,977, hereinafter referred to as Resnick and Mancini et al., U.S. Patent No. 6,387,787, hereinafter referred to as Mancini. The Examiner states that each of the references describes, teaches and suggests the essential requirements of the instant invention as claimed by describing lithographic templates, method of formation and methods of use. The Examiner points the application specifically towards the claims and the drawings of the patents.

The applicant respectfully disagrees with these rejections in light of the amendments presented herein and asserts that the applicant's claims as amended herein do not read on the disclosures of Resnick and Mancini. The applicant asserts that Resnick and Mancini fail to disclose the inclusion of a directly patternable patterning layer as is now claimed by the applicants. The applicants have amended claims 1, 17 and 30 to include a directly patternable patterning

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lay r. The applicants have additionally added new claim 37 in which claimed is the step of applying a developer solution to the directly patternable patterning layer subsequent to the application of radiation by the radiation source.

As described on page 8, line 20 through page 9, line 10, the applicant disclosed that, "..... conventional template patterning methodology is distinctly different from the current invention. Disclosed herein is the inclusion of a resist, or patterning, layer that once patterned is not used as an intermediate layer to effect pattern transfer to a second layer. Rather the patterning layer, after it is patterned, actually becomes the final template relief structure. This is made possible by judicious use of unique materials which combine the patternable characteristics of a photoresist, with the robust mechanical properties required of a template relief layer. These properties include high adhesive strength to the substrate, high modulus, high shear strength, and good thermal stability. Materials such as hydrogen silsesquioxane (HSQ) are patternable to a very high resolution and, once cured, form a very stable silicon oxide suitable as a template relief structure for imprinting. Materials with similar characteristics may be substituted for this application for HSQ. However, it should be noted that any such materials which are both irradiation sensitive and patternable, and possess adequate physical properties to behave as a template relief layer are unique and are the heart of this invention."

The applicant has amended the claims presented herein to more accurately claim the inclusion of this directly patternable patterning layer. The applicants lithographic template and method of forming the lithographic template do not require

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the inclusion of a separate photoresist layer, as disclosed in Resnick and Mancini, to achieve patterning of the patterning layer. The patterning layer as disclosed by the applicants is directly imageable without the need for a separate photoresist/masking layer, and once directly patterned, become the final template relief structure.

Resnick and Mancini both describe the inclusion of a separate photoresist layer that is formed on an uppermost surface of a patterning layer, that is necessary to achieve fabrication of the final template relief structure. More specifically, Resnick and Mancini disclose the creation of patterning layer using standard lithographic methods, namely deposition of a layer, which once patterned is a patterning layer, and the application of a photoresist layer on an uppermost surface of the patterning layer to effect patterning of the patterning layer. Fabrication of the final template relief structure requires the patterning of the photoresist layer using standard lithographic methodology, including the photoresist material layer, which is subsequently utilized as a mask to achieve the actual patterning (etch) of the patterning layer. The photoresist layer is developed utilizing a standard developer, that is applied directly to the photoresist layer (not the patterning layer), as is well known in the art and the photoresist layer (masking layer) is completely removed subsequent to patterning (etching) of the patterning layer. Thus, in the disclosures of Resnick and Mancini, the photoresist layer is used only as a temporary masking structure and has no permanent usefulness in the final template relief structure and so is removed prior to using the template within a device. In addition, the material properties of the photoresist layer as disclosed in Resnick and Mancini are typically

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such that they would not perform well as anything other than a temporary masking layer.

In contrast, the applicant's lithographic template and method of forming the lithographic template involves a unique classification of materials that combine the direct patternability of a photoresist and the durable mechanical properties of a patterning layer. The directly patternable patterning layer once having a developer applied directly thereto following irradiation, behaves like a photoresist due to the uniqueness of the material being radiation sensitive and having the ability to be selectively removed (patterned). This use of a specific material having these characteristics provides for the elimination of an interim photoresist processing step combined with an etch step. The patterning layer of Resnick and Mancini is not responsive to radiation, only the photoresist layer is. The applicants accordingly state that their directly patternable patterning layer is responsive to radiation, and as a result forms the patterned imageable relief layer having a relief structure without the need for an interim masking layer.

To anticipate a claim for a patent, a single prior source must contain all its essential elements. Each limitation of a claim must be found in a single reference, practice, or device. In that the Resnick and Mancini disclosures fail to claim the inclusion of a directly patternable patterning layer and the direct patterning of the directly patternable patterning layer, there is clearly no anticipation by Resnick or Mancini. This exclusion of claimed elements from a prior art reference is enough to negate anticipation by this reference.

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Therefore, in light of these remarks, the applicants assert that the amended claims presently in the application do not read on Resnick or Mancini. Accordingly, the applicant believes that Independent claims 1, 17 and 30 are in a condition for allowance. The applicant also believes that depending claims 2-16, 18-29, and 31-36 depending therefrom, respectively, are also in a condition for allowance in that they must contain each and every element of the claim from which they depend. In light of the above remarks, the applicant believes the 35 U.S.C. §102 rejection has been overcome. Notice to that effect is respectfully requested.

No amendment made herein was related to the statutory requirements of patentability unless expressly states; rather any amendment not so identified may be considered as directed *inter alia* to clarification of the structure and/or function of the invention and Applicants' best mode for practicing the same. Additionally, no amendment made herein was presented for the purpose of narrowing the scope of any claim, unless Applicant has argued that such amendment was made to distinguish over a particular reference or combination of references. Furthermore, no election to pursue a particular line of argument was made herein at the expense of precluding or otherwise impeding Applicants from raising alternative lines of argument later during prosecution. Applicants' failure to affirmatively raise specific arguments is not intended to be construed as an admission to any particular point raised by the Examiner.

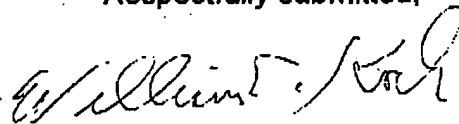
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The Applicant believes that the subject application, is in condition for allowance. Such action is earnestly solicited by the Applicant. In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

**SUMMARY:** Reconsideration is respectfully requested. In view of the foregoing amendments and remarks it is believed that the application, including claims 1-37, is now in condition for allowance. Notice to that effect is respectfully requested.

Authorization is hereby given to charge any fees necessitated by actions taken herein, including any extension of time fees, to Deposit Account 502117.

Respectfully submitted,



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